

FREQUENCY MODULATION



Progress of FM During 1944

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FM News Highlights

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Proposed Allocations

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High Frequency Stations

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Developmental Stations

REL is Ready

FOR A FUTURE — BUILT UPON A PAST OF ACCOMPLISHMENTS

REL has long been the leader in the development of fine FM Broadcast Equipment employing the Armstrong Crystal Controlled Phase Shift System of Modulation. The record speaks for itself! Numerous REL FM stations—1 KW to 50 KW—have been in continuous, successful operation over a period of years.

REL pioneering has resulted in some vitally important "FIRSTS" in FM...

FIRST

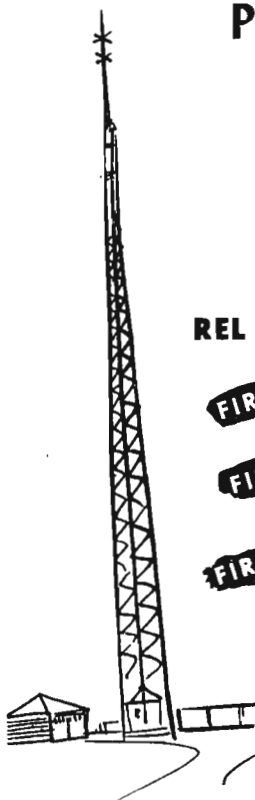
(and only one) to ever successfully install a 50 KW. FM transmitter. Four of ours are operating daily and have been since 1941.

FIRST

to develop and install a studio to transmitter radio relay.

FIRST

to develop and install transmitter to transmitter radio relay, thereby making possible the FM networks.



Our pre-war successes have been the result of specialization in FM installations. FM is not an REL sideline . . . it is the actual basis of our operations! Our staff of engineers have unique experience . . . experience that enables them to plan and carry through the most difficult FM installations . . . experience that assures REL of a tremendous future in FM. The groundwork—the pioneering—is complete! We are ready to reassume our major role in FM broadcasting as soon as conditions permit.

**RADIO ENGINEERING LABS., INC.,
LONG ISLAND CITY, N. Y.**

FM NEWS HIGHLIGHTS—1944

From RADIO DAILY

Increasing interest in frequency modulation broadcasting is indicated in an appraisal of the FM news carried in RADIO DAILY during the past year. Following pages chronologically record the highlights of the year's FM news developments.

JANUARY

- Jan. 19—Application for an FM station was filed with the FCC today by the New York "Times." This application, coming right after the FCC sanctioned the ownership of radio stations by newspapers, indicated the matter had been under consideration for some time.
- Jan. 24—NBC issued a statement to the effect that the network had investigated the possibilities of FM from every angle.
- Jan. 26—The fifth annual meeting of the FM Broadcasters Inc. opened today at the Hotel Commodore in New York City, with record attendance indicated.
- Jan. 27—James Lawrence Fly, head of the FCC, commends FM and the FMBI. Addressing a luncheon gathering of more than 600, he declared that FM "stands on the threshold of tremendous developments." He also brought a letter of greeting from President Roosevelt.

FEBRUARY

- Feb. 7—FM programming was expanded by CBS over WABC-FM with the announcement that the New York Philharmonic Symphony and the Philadelphia Orchestra will henceforth be heard as a regular feature.
- Feb. 9—Phamplets are to be released shortly by the Office of Education entitled "FM for Education." They are for the purpose of disclosing to the public the post war plans for the FM channels reserved for education.
- Feb. 16—Seventeen out of the 77 FM applications pending with the FCC at the start of this week were from newspapers, a study of the list indicates.
- Feb. 24—Applications were filed with the FCC today for 5 FM stations by the National Broadcasting Company. Two FM applications by NBC are already pending.

MARCH

- March 17—An FM station to carry on "research to foster the development" of that type of broadcasting will be built in the Capital area, with its transmitter located at Olney, Maryland, according to Columbia University's department of public information, which further states that the new station will be a replica of Major Armstrong's outlet at Alpine, N. J.
- March 21—Full expansion into both the field of FM and that of television by the Blue web, was forecast by Mark Woods, president, in an address to 47 departmental heads at a recent managerial meeting held at the Waldorf-Astoria hotel. Woods also revealed that applications for several FM stations have been filed.

APRIL

- April 13—According to the files of the FCC, applications for FM stations have been more than triple the number of applications for AM stations during the first three months of the year.
- April 18—A recent survey in the New York and Metropolitan area to determine what makes people listen to FM reveals that about 18 per cent desire the better reception on classical music, while another 11 per cent like the fact that there is less advertising and commercials on FM programs.
- April 25—Growing interest of the nation's newspaper publishers and editors in postwar FM and television was indicated at the convention of the American Newspaper Publishers Association which opened yesterday at the Waldorf-Astoria.
- April 26—FM broadcasting will replace AM broadcasting entirely within eight to ten years after transmitters and receiving sets are made available to the general public, according to a prediction by Walter J. Damm, president of FM Broadcasters, Inc., at the final session of the American Newspapers association convention, yesterday.

MAY

- May 12—The practical use of tele will be delayed at least five years in favor of the further development of FM, was the theory advanced by Edward W. Wood, Jr., general sales manager of Mutual, in a speech made this week before members of the New Orleans Advertising Club.
- May 23—A discussion of FM and tele will be included on the agenda of the spring meeting of the CBS Affiliates Advisory Board which will be held at the network's headquarters in New York City May 24th and 25th.
- May 24—Yesterday the FCC questioned all national and regional networks in regard to their policy on net shows for FM. Full replies of present policies and future plans were asked for by the commission in an effort to determine how closely the FM program will adhere to the AM program line. The survey was inspired by recent NBC and CBS contracts with their affiliates, to wit: stations having FM outlets could carry net FM shows free of charge providing the AM outlet also carried the show.
- May 26—Arrangements have been completed between the Mexican government and that of the United States to present the new uses of FM in a special exhibit in Mexico City from June 1 to the 8th. It was indicated that FM provides the solution to the Mexican Ministry of Education's problem of carrying their education program into the sparsely settled mountain areas.

JUNE

- June 1—Raymond F. Guy, NBC radio Facilities Engineer, addressed the Institute of Radio Engineers in Indianapolis recently on the merits of FM. Stressing the greater value of FM as compared with AM broadcasting, he demonstrated his talk with records made in the field, mainly in the higher frequencies, and brought out the ability of FM to reject interfering signals on the same frequencies.
- June 9—In a detailed technical report released today, the FCC sought to explain the cause of the "bursts" they have on many occasions recorded. They are at present unable to define the cause, but the report gives much data on the rate of occurrence, etc. A "burst" is a sudden increase in signal strength of very short duration, and is frequently noted on sets from 300 to 700 miles from the transmitter, those nearer being protected by the steady groundwave, and those further away, for some reason, not being strongly affected.
- June 15—A new map issued recently by the FM Broadcasters Association reveals that there are 44 FM stations now in operation in 36 states, and at the present time there are 163 applications pending with the FCC in

Washington. It is estimated that the applicants may spend over \$10,000,000 for equipment.

JULY

- July 3—Three new applications were filed with the FCC yesterday, all from standard broadcasters. The applicants are KTRH, Houston, Texas; WBIG, Greensboro, N. C.; and WFCL, Pawtucket, R. I.
- July 18—The Winston-Salem, N. C., high schools with the cooperation of WMIT, North Carolina's pioneer FM station, have proposed a plan for use of FM stations for educational purposes throughout the state in the post war period. As an experiment, four speakers have been installed by WMIT in four of the leading high schools, and the station's staff is working with the school board to create special programs in various educational fields, which will be fed directly to the schools.
- July 19—An announcement by the FCC reveals that the commission plans to carefully scan all future requests for FM stations for educational purposes with a view to state educational plans. This survey results from the great interest shown in the proper use of the five FM bands set aside for educational purposes.
- July 27—The Trans-Canada Air Lines has taken a step which may be a forerunner for all commercial air lines, by installing complete two-way FM equipment at their various airports and travel bureaus. The aim is to speed up communications regarding tickets, reservations, etc., as much as possible. The new equipment is of ultra high frequency, and is the first such equipment to be installed either in Canada or in the United States.
- July 31—Wide distribution to the public is planned for the forthcoming FM book being published jointly by the FM Broadcasters, Inc., and manufacturers of FM equipment. In order to insure as wide a distribution as possible, the FMBI has issued an initial print order of 200,000, with the equipment companies expected to raise the number considerably.

AUGUST

- Aug. 24—Post-war planning in the field of FM broadcasting will come up for discussion at the final session of the NAB convention, Thursday, Aug. 31. Because of the rapidly growing interest in this field, the NAB officials announced that the entire afternoon would be turned over to this subject.
- Aug. 30—"One of the most fundamental problems of all Blue Network affiliates at the present time is FM broadcasting." This was the statement made by Mark Woods, president of the Blue web, before a group of

network affiliate managers at the NAB convention. Predicting great post war expansion of that type of broadcasting, Woods said that there would be 20,000,000 sets in operation within four years after the war. The change from AM to FM will be gradual, and will take from 5 to 10 years. In view of these facts, Wood urged all Blue affiliated stations to make immediate application with the FCC for FM outlets.

SEPTEMBER

Sept. 7—In order to increase WOR's news services, WBAM, WOR's FM outlet, will extend their broadcast schedule to seven days a week, Alfred J. McCosker, president, announced yesterday.

Sept. 11—The FCC announced Friday that it is preparing its own FM station, a portable affair in a trailer, which should be ready for operations next week. The outfit will be used to gather information in and around Washington for use in the coming frequency allocations hearings to be held here at the end of the month. The new station's call letters will be W3XFC, and it will operate variously on from 42 to 50 megacycles, both wide and narrow bands.

Sept. 22—Operating under newly assigned call letters, WEAJ-FM, NBC's FM outlet in New York City, begins operations Sunday on a seven-day-a-week basis. The FM station will carry, wherever possible, regular NBC commercial shows, including the commercials, free of charge.

Sept. 26—The importance of the need for the Blue network to look into the field of FM broadcasting and to catch up with the other webs in this phase of electronics was stressed by Edgar Kobak, executive vice president of the web, at a luncheon for the press in the lounge of the Waldorf-Astoria yesterday.

OCTOBER

Oct. 2—A settlement of the differences of opinion between FM and tele interests was reached Friday at the FCC allocations hearings. After various conflicting claims and other disputes were ironed out, the FM bands decided upon were from 41 to 43 megacycles for educational and other non-commercial FM outlets, and from 43 to 56 megacycles for commercial FM. These results are not final, however, and the matter will come under further discussion.

Oct. 13—Lengthy questioning concerning the anticipated post war construction of FM receiving sets at the FCC allocations hearing

today lent added weight to the impression that FM service may eventually be moved up to about 90 megacycles with room for 100 or more 200-kilocycle channels.

Oct. 17—In a poll conducted by General Electric, post war purchase lists include an FM receiving set at least nine times out of ten, according to the replies turned in by 16,635 GE stockholders, and 1,538 dealers.

Oct. 23—Trend of the testimony given at the FCC's frequency allocation hearing today showed no desire on the part of FM broadcasters to move up the spectrum, apparently upsetting plans of the commission to move the service up.

NOVEMBER

Nov. 3—William B. Lewis, vice-president and radio director of Kenyon & Eckhardt predicted the formation of a fifth major network to be FM and press-owned. At the same time he intimated that the present four major AM nets would eventually transform themselves into FM webs.

Nov. 6—J. Harold Ryan wrote a letter to the FCC opposing the proposed FM subscription plan, stating that it would be inadvisable to "sacrifice" our present broadcasting industry for what is, in effect, a "multiple address system." Ryan also stated that radio had served the public well, and planned further expansion in the future.

Nov. 22—CBS began their new improved FM service today when they put into operation their new 800 foot antenna located on the roof of 500 Fifth Ave. The new antenna has three kilowatts and extends the broadcasting radius from less than 50 miles to about 60 miles.

DECEMBER

Dec. 8—It is anticipated that the subject of Mutual's future expansion into the field of FM broadcasting will come up for extensive discussion tomorrow at the web's board of directors meeting at the Ambassador Hotel. This is regarded as most likely, due to Ed Kobak's, Mutual's new president, well-known interest in FM.

Dec. 14—Walter J. Damm, general manager of WTMJ, Milwaukee, and president of the FM Broadcasters, Inc., in New York this week for radio conferences, revealed that the total applications for FM stations had reached 310, and that the industry was very optimistic about the post-war market.

FM ALLOCATION PROPOSALS

AT THE Allocation Hearings held before the FCC and prior to the one held late in February of this year, it was decided that existing FM stations would not be required to move upward until new receivers capable of tuning in the new wave lengths are generally available.

According to the FCC the cost to the public "would not be great" and that the present 500,000 FM sets are mostly combination sets capable of receiving both AM and FM. These, said the Commission, are several years old and some of them could be converted. In any event, the FCC stated, the existing receivers or attachments would become partially obsolete if the recommendations of the FM industry to widen the band were followed. Cost of remodeling FM transmitters would not be substantial, the FCC held.

Disputing the FCC findings along this line and the frequency swap believed to benefit television out of proportion to that received by FM, the FM interests marshalled their forces at the latter hearing. After explanatory remarks on the status of FM as brought up at the original hearings, the FCC issued the following re Temporary Allocations For FM Stations:

FM Temporary Allocations

"The Commission is desirous of establishing FM in its new place in the spectrum as soon as possible in order that the 42 to 50 mc. band can be made available for use by other services which are being assigned to these frequencies. It is recognized, however, that very few receivers for reception in the proposed 84 to 102 mc. band will be available for some time after materials and manpower become available for this purpose. Accordingly, existing FM stations will not be required to move to new assignments in this band until such time as new receivers are generally available and in the hands of the public. At that time, the Commission will assign a frequency in the 84 to 102 mc. band to each existing licensee who will then be expected within a reasonable period of time to make the necessary arrangements for operation on the newly assigned frequency. It is believed this procedure will great facilitate

the transition of FM stations to their new location.

"As pointed out in Section 10 on television 44 to 50 mc. will be assigned as the first television channel. Accordingly, in order that this space may become immediately available for use by television broadcasters, existing FM licensees will be given new assignments within the 42 to 44 megacycle band to operate on such channels until, as stated above, they are moved to a higher frequency in the 84 to 102 mc. region. No hardship should result from this change since existing FM sets are capable of receiving in this range which is already part of the FM band. In the congested areas sharing time may be required temporarily. This will permit change over of frequency of one transmitter to the new frequencies while maintaining operation on the lower frequencies.

Economic Factors

"The cost to the public as a result of moving FM from its present band to the proposed higher band will not be great. There was testimony that approximately 500,000 FM receivers are now in the hands of the public consisting principally of combination sets capable of receiving both AM and FM. (Damm, Tr. 1047). These sets are, of course, several years old.

"Even if the present FM band were retained, these receivers would become partially obsolete insofar as FM reception is concerned since an expansion of the existing 42 to 50 mc. band would place a number of stations out of range. In some cases, old FM receivers can be converted for reception on the higher frequencies. Moreover, present AM receivers can include FM detachments which will not be appreciably more costly in the 84 to 102 mc. band than in the present band (Cotter, Tr. 1107).

"Insofar as transmitting equipment is concerned, the shift to the higher frequencies will not cause a substantial loss to the respective licensees in that a large part of the existing investment will not be affected, such as buildings, towers, power equipment, which will remain unchanged. Also, most of the transmitting

equipment can be modified to operate on the higher frequencies without unreasonable cost."

In connection with issuing the temporary allocations, the Commission said in part ". . . the large percentage of AM licensees among the present FM applicants and the economic advantage which AM licensees have in building and operating FM stations more cheaply raise serious questions as to whether, unless some special measures are taken to that end, this objective will be accomplished. The Commission recognizes that until a substantial number of receivers are in the hands of the public, FM broadcasting will not be a self-supporting operation.

"To keep the door open for later applicants, the Commission is considering the adoption of the following plan: 50 FM commercial channels will be available for assignment both to present licensees and to newcomers in the radio field. This policy will afford existing AM licensees an opportunity to enter FM if they so desire, and in addition will enable some new persons to participate in FM's early development. The remaining 20 FM commercial channels will be reserved from assignment at the present time to be licensed in the future in accordance with rules and regulations subsequently to be promulgated."

**FOR QUALITY
AP !**

HIGH FREQUENCY—FREQUENCY MODULATION BROADCAST STATIONS

Section 37-48 lists 53 licensees or permittees and 232 Applicants for new facilities as of January 1, 1945, giving frequencies assigned or requested, coverage and population data furnished with applications filed with the FCC.

COMMERCIAL

State and City	Call Letters	Licensee or Permittee	Frequency (megs.)	Coverage (sq. mi.)	Population
CALIFORNIA					
Los Angeles	KHJ-FM	Don Lee Broadcasting System	44.5	6,944	2,604,104
Los Angeles	KTLO	M-G-M Studios	46.1	7,000	468,178
CONNECTICUT					
Hartford	WTIC-FM	The Travelers B/C Service Corp.	45.3	6,100	936,448
Hartford	WDRG-FM	WDRG, Incorporated	46.5	6,100	1,337,805
ILLINOIS					
Chicago	WBBM-FM	Columbia Broadcasting System	46.7	10,800	6,431,310
Chicago	WDLM	Moody Bible Institute of Chicago	47.5	10,800	5,091,500
Chicago	WGNB	WGN, Incorporated	45.9	10,800	5,359,556
Chicago	WEHS	WHFC, Incorporated	48.3	10,800	5,036,000
Chicago	WWZR	Zenith Radio Corporation	45.1	10,800	4,500,204
INDIANA					
Evansville	WMLL	Evansville On The Air, Inc.	44.5	8,397	465,600
Fort Wayne	WOWO-FM	Westinghouse Radio Stations, Inc.	44.9	6,100	420,168
Indianapolis*	WABW	Associated Broadcasters, Inc.	47.3	8,400	870,054
South Bend	WSBF	South Bend Tribune	47.1	4,300	448,330
LOUISIANA					
Baton Rouge	WBRL	Baton Rouge Broadcasting Co.	44.5	8,100	361,382
MASSACHUSETTS					
Boston	WBZ-FM	Westinghouse Radio Stations, Inc.	46.7	6,700	3,389,751
Boston	WMTW	The Yankee Network, Inc.	43.9	31,000	2,020,162
Boston	WGTR	The Yankee Network, Inc.	44.3	19,230	6,635,751
Springfield	WBZA-FM	Westinghouse Radio Stations, Inc.	48.1	2,500	.....
Worcester	WTAG-FM	Worcester Telegram Pub. Co.	46.1	4,465	2,703,202
MICHIGAN					
Detroit	WLOU	John Lord Booth	44.9	6,732	2,901,908
Detroit	WENA	Evening News Association	44.5	6,820	2,498,000
MISSOURI					
Kansas City	KOZY	Commercial Radio Equipment Co.	44.9	4,410	730,869
Kansas City	KMBC-FM	Midland Broadcasting Company	46.5	6,700	.....
NEW JERSEY					
Alpine	WFMN	Edwin H. Armstrong	43.1	15,610	.....
West Orange*	WAAW	Bremer Broadcasting Corporation	49.5	6,200	10,906,200
NEW YORK					
Binghamton	WNBF-FM	Wylie B. Jones Adv. Agency	44.9	6,500	1,836,300
New York	WBAM	Bamberger Broadcasting Service	47.1	8,500	10,906,200
New York	WNYC-FM	City of New York Municipal Broadcasting System	43.9	3,900	11,550,274
New York	WABC-FM	Columbia Broadcasting System	46.7	14,150	14,954,832
New York	WQXQ	Interstate Broadcasting Co., Inc.	45.9	8,500	10,817,455
New York	WHNF	Marcus Loew Booking Agency	46.3	8,500	12,074,192
New York		Metropolitan Television, Inc.	47.5	8,500	11,814,746

PENDING FM APPLICATIONS

State and City	Call Letters	Licensee or Permittee	Frequency (megs.)	Coverage (sq. mi.)	Population
New York	WGYN	Muzak Radio Broadcasting Station, Inc.	44.7	8,500	10,546,481
New York	WEAF-FM	National Broadcasting Co., Inc.	45.1	8,500	11,896,500
New York*	WFGG	Wm. G. H. Finch	45.5	8,500	10,600,000
Rochester	WHFM	Stromberg-Carlson Company	45.1	3,200	584,800
Rochester	WHEF	WHEC, Incorporated	44.7	3,200	599,256
Schenectady	WBCA	Capitol Broadcasting Co., Inc.	44.7	6,589	967,733
Schenectady	WGFM	General Electric Company	48.5	6,600	502,200
NORTH CAROLINA					
Winston-Salem	WMIT	Gordon Gray	44.1	69,400	4,125,000
OHIO					
Columbus	WELD	WBNS, Incorporated	44.5	12,400	1,104,642
PENNSYLVANIA					
Philadelphia	WPEN-FM	Wm. Penn Broadcasting Company	47.3	9,352	3,906,453
Philadelphia	WIP-FM	Pennsylvania Broadcasting Co.	44.7	9,300	4,474,940
Philadelphia*	WLBG	Seaboard Radio Broadcasting Co.	46.5	9,300	3,900,000
Philadelphia	WCAU-FM	WCAU Broadcasting Company	46.7	9,300	5,079,206
Philadelphia	KYW-FM	Westinghouse Radio Stations, Inc.	45.7	9,300	4,088,000
Philadelphia	WFIL-FM	WFIL Broadcasting Company	45.3	9,300	4,760,200
Pittsburgh	KDKA-FM	Westinghouse Radio Stations, Inc.	47.5	8,400	2,940,000
Pittsburgh	WTNT	WWSW, Incorporated	44.7	8,400	2,100,000
TENNESSEE					
Nashville	WSM-FM	National Life & Accident Insurance Company	44.7	16,000	857,270
UTAH					
Salt Lake City	KSL-FM	Radio Service Corp. of Utah	44.7	623	194,102
WISCONSIN					
Milwaukee	WMFM	The Journal Company	45.5	8,540	1,522,544
Superior	WDUL	Head of the Lakes Broadcasting Company	44.5	407	130,376

* CP only.

PENDING APPLICATIONS FOR FM STATIONS

State and City	Applicant	Frequency (megs.)	Coverage (sq. mi.)	Population
ALABAMA				
Birmingham	The Birmingham News Co.	44.5	17,700	.....
Birmingham	Birmingham B/C Co., Inc.	46.9	18,580	1,203,175
Birmingham	Voice of Alabama, Inc.	45.9	17,200	1,206,981
Huntsville	The Huntsville Times	48.9	12,900	.....
Mobile	Pape B/C Company	46.1	10,000	.....
Montgomery	G. W. Covington, Jr.	45.5	4,761	.....
Montgomery	Montgomery B/C Co., Inc.	43.5	17,299	722,782
CALIFORNIA				
Alameda	Times-Star Publishing Co.	49.1	5,450	.....
Avalon	The Santa Catalina Island Co.	43.7	34,500	3,420,002
Fresno	J. E. Rodman	44.1	24,752	578,105
Hollywood	Columbia B/C System, Inc.	43.1	34,000	3,420,002
Hollywood	Warner Bros. B/C Corp.	44.9	3,118	2,487,874
Los Angeles	Earle C. Anthony, Inc.	43.7	34,000	3,597,000
Los Angeles	Blue Network Co., Inc.	43.1	21,024	3,320,125
Los Angeles	Consolidated B/C Corp., Ltd.	45.7	7,000	3,053,991
Los Angeles	National Broadcasting Co.	44.1	.....	.....
Los Angeles	IUUAAA Workers of America	43.9	32,000	.....
Los Angeles	Standard Broadcasting Co.	45.3	7,000	3,074,303
Los Angeles	The Times-Mirror Co.	43.3	15,857	.....

<i>State and City</i>	<i>Applicant</i>	<i>Fre- quency (megs.)</i>	<i>Cover- age (sq. mi.)</i>	<i>Population</i>
Oakland	Tribune Building Company	46.5	1,216	1,350,000
Ontario	The Daily Report	49.9	2,240	.....
Richmond	B/C Corp. of America	43.5	48,000	4,300,000 (50 uv/m)
Riverside	Contra Costa B/C Co.	49.5	4,490	23,642
San Bernardino	Sun Co. of San Bernardino	44.1	17,101	803,534
San Diego	Union Tribune Pub. Co.	45.5	5,000	203,341
San Diego	Airfan Radio Corp., Ltd.	44.7	950	203,341
San Francisco	Associated B'casters, Inc.	43.1	.....	.....
San Francisco	Blue Network Co., Inc.	44.3	27,500	2,423,926
San Francisco	Don Lee B/C System	43.5	18,050	1,098,612
San Francisco	KJBS Broadcasters	44.7	7,557	2,891,687
San Francisco	National B/C Company	43.9	.....	.....
Stockton	E. F. Peffer	45.9	19,696	287,486 (50 uv/m)
COLORADO				
Colorado Springs	Out West B/C Co.	47.7	2,950	.....
Denver	KLZ Broadcasting Company	43.5	31,400	.....
Denver	National B/C Co., Inc.	43.9	.....	.....
CONNECTICUT				
Hartford	The Hartford Times, Inc.	43.7	21,900	3,840,166
New London	Thames B/C Corp.	44.5	3,500	.....
Waterbury	Harold Thomas	43.3	14,300	2,830,148
DELAWARE				
Wilmington	WDEL, Inc.	44.5	6,400	.....
DISTRICT OF COLUMBIA				
Washington	Capital B/C Company	46.7	8,020	.....
Washington	The Evening Star B/C Co.	47.1	5,600	899,946
Washington	Marcus Loew Booking Agency	47.5	3,993	1,187,012
Washington	The Times Herald	46.3	.....	.....
Washington	National B/C Company	44.3	.....	.....
FLORIDA				
Daytona Beach	The News Journal Corp.	49.1	3,000	.....
Jacksonville	Florida B/C Company	44.7	11,700	.....
Jacksonville	The Metropolis Co.	46.5	10,981	467,883
Miami	Miami B/C Co.	46.5	3,630	.....
Tampa	Tampa Times Company	45.3	8,100	.....
Tampa	The Tribune Company	.....	.....	.....
GEORGIA				
Atlanta	The Constitution Pub. Co.	45.3	7,380	826,864
Macon	Southeastern B/C Co.	44.7	12,600	.....
Macon	Macon Telegraph Pub. Co.	46.7	12,000	57,865 (Macon only)
Macon	Middle Georgia B/C Co.	45.7	12,600	589,140
IDAHO				
Boise	Boise B/C Station	48.5	1,148	82,830
ILLINOIS				
Bloomington	Radio Station WJBC	45.3	6,680	316,339
Champaign	Champaign News-Gazette, Inc.	49.1	4,660	.....
Chicago	Agricultural B/C Co.	44.7	10,624	4,842,528
Chicago	Blue Network Co., Inc.	48.7	11,000	5,045,240
Chicago	Chicago Fed. of Labor	47.9	10,800	4,849,461
Chicago	Drovers Journal Pub. Co.	48.7	10,800	.....
Chicago	IUAAAA Workers of America	43.5	14,600	.....
Chicago	National B/C Co., Inc.	46.3	10,800	4,869,900
Chicago	Oak Park Realty Co.	47.9	10,800	.....
Chicago	WEHS, Inc.	48.3	10,800	.....
Chicago	WJJD, Inc.	44.7	10,800	4,750,000
Decatur	Commodore B/C, Inc.	46.5	15,708	879,355
Herrin	Orville W. Lyerla	49.1	3,966	.....
Peoria	Peoria Broadcasting Co.	48.7	11,614	598,367

• • • **PENDING FM APPLICATIONS** • • •

State and City	Applicant	Fre- quency (megs.)	Cover- age (sq. mi.)	Population
Quincy	Illinois B/C Corp.	44.1	15,300	
Quincy	Quincy Newspapers, Inc.	47.3	16,760	
Rockford	Rockford Broadcasters, Inc.	47.1	3,900	394,500
Rock Island	Rock Island B/C Co.	44.5	3,000	316,000
Springfield	Commodore B/C, Inc.	46.9	8,050	404,661
Springfield	WCBS, Incorporated	46.1	11,594	650,218
Waukegan	Keystone Printing Service	47.1	2,890	527,798
INDIANA				
Evansville	Evansville On The Air	44.3	29,688	
Fort Wayne	Farnsworth Television & Radio Corp.	46.1	8,500	118,410
Hammond	Radio Station WJOB	49.9	2,241	691,853
Hammond	WFAM, Incorporated	49.7		
Indianapolis	Capitol B/C Corp.	48.7	14,120	1,417,204
Indianapolis	Indianapolis B/C, Inc.	45.3	13,640	1,017,471
Indianapolis	Scripps Howard Radio, Inc.	46.9	8,400	386,972
Muncie	Donald A. Burton	46.5	9,600	1,108,084
Shelbyville	Shelbyville Radio, Inc.	46.1	3,730	243,136
Terre Haute	Banks of the Wabash, Inc.	48.7	7,440	415,999
IOWA				
Cedar Rapids	The Gazette Company	44.7	7,400	282,000
Davenport	Tri-City Broadcasting Co.	46.3	10,600	
Davenport	Central Broadcasting Co.	46.1	18,200	
Dubuque	Telegraph Herald	46.5	8,060	300,250
Waterloo	Josh Higgins B/C Co.	44.3	26,943	1,354,523
KANSAS				
Hutchinson	Hutchinson Pub. Co.	43.3	15,200	332,500
Topeka	Topeka B/C Assn. Co.	45.5	4,804	191,299
Wichita	The Farmers & Bankers B/C Corp.	47.3	15,600	427,729
KENTUCKY				
Ashland	Ashland B/C Company	46.1	4,160	398,692
Lexington	American B/C Corp. of Ky.	45.1	6,300	391,742
Louisville	WAVE, Inc.	46.9	13,300	
Louisville	Courier-Journal & Louisville Times Co.	45.7	13,200	1,004,320
Louisville	Northside B/C Corp.	46.3	8,665	750,125
Owensboro	Owensboro B/C Co., Inc.	47.9	7,250	(800,716 based latest fig.)
LOUISIANA				
New Orleans	The Times-Picayune Pub. Co.	44.3		
New Orleans	Loyola University	44.9	8,478	815,078
MAINE				
Augusta	Gannett Pub. Co.	49.1	3,968	161,003
Portland	Portland B/C System, Inc.	47.1	3,980	359,687
MARYLAND				
Baltimore	The A. S. Abell Co.	46.3	6,040	1,810,159
Baltimore	Baltimore B/C Corp.	48.3	3,600	1,343,000
Baltimore	The Baltimore Radio Show, Inc.	45.9	5,500	1,393,884
Baltimore	Hearst Radio, Inc.	43.7	8,857.6	2,383,494
Baltimore	Maryland B/C Company	48.9	2,904	1,209,745
Baltimore	The Monumental Radio Co.	47.9	4,520	1,365,000
Olney	FM Development Foundation	43.9	18,844	2,956,668
Salisbury	The Peninsula B/C Co.	48.9	6,000	

State and City	Applicant	Pre- quency (megs.)	Cover- age (sq. mi.)	Population
MASSACHUSETTS				
Boston	Columbia B/C System, Inc.	43.5	20,200	5,972,246
Boston				(50 uv/m)
Boston	Fidelity B/C Corp.	47.1	4,830	.....
Boston	Filene's Television, Inc.	43.1	21,709	5,597,460
Brookline	Matheson Radio Co., Inc.	47.7	3,600	2,557,000
Fall River	Worcester Telegram Pub. Co.	45.3	7,000	.....
Greenfield	Doughty & Welch Elec. Co., Inc.	47.3	2,120	1,000,000
Holyoke	John W. Haigis	49.9	3,556	225,186
Lawrence	The Hampden-Hampshire Corp.	44.1	14,340	1,825,597
New Bedford	Hildreth & Rogers Company	44.9	2,970	651,000
(Paxton)	E. Anthony & Sons	43.3	19,650	4,779,600
New Bedford	E. Anthony & Sons, Inc.	45.7	18,100	350,240
Pittsfield	Eagle Publishing Co.	46.3	10,061	861,457
Pittsfield	Monroe B. England	45.7	7,000	.....
Waltham	Raytheon Mfg. Co.	45.5	6,530	.....
Worcester				
(Paxton)	Worcester Telegram Pub. Co.	43.5	20,437	6,038,500
MICHIGAN				
Bay City	Bay B/C Company, Inc.	46.1	8,157	333,995
Ann Arbor	Washtenaw B/C Co.	46.3	3,472	430,136
Battle Creek	Federated Publications, Inc.	48.1	4,100	278,739
				(50 uv/m)
Benton Harbor	The Palladium Pub. Co.	46.1	1,825	98,000
Dearborn	Herman Radner	49.5	.....	.....
Detroit	James F. Hopkins, Inc.	46.5	6,790	2,133,811
				(50 uv/m)
Detroit	IUUAAA Workers of America	43.1	22,750	.....
Detroit	King-Trendle B/C Corp.	47.3	6,750	2,564,008
Detroit	WJR, The Goodwill Station	45.3	6,800	2,480,714
Flint	IUUAAA Workers of America	45.9	8,045	.....
Grand Rapids	Fetzer B/C Company	43.9	18,250	1,297,437
Grand Rapids	King-Trendle B/C Corp.	46.9	5,300	493,842
Grand Rapids	Leonard A. Versluis	46.1	6,460	546,100
Jackson	WIBM, Incorporated	49.5	.....	.....
Lansing	WJIM, Incorporated	47.7	3,800	280,296
Muskegon	Ashbacker Radio Corp.	45.7	2,290	191,845
Port Huron	The Times Herald Co.	47.7	5,600	434,000
Saginaw	Saginaw B/C Company	45.5	2,100	.....
Wyandotte	Wyandotte News Co.	46.1	775	267,333
MINNESOTA				
Minneapolis	Minnesota B/C Corp.	45.3	16,155	1,433,063
Rochester	Southern Minnesota B/C Co.	43.7	15,400	.....
St. Paul	WMIN Broadcasting Co.	45.7	13,273	195,394
MISSOURI				
Kansas City	WHB Broadcasting Co.	46.9	9,200	.....
Kansas City	Kansas City Star	44.5	26,400	1,387,576
Kansas City	Midland B/C Company	43.9	.....	.....
St. Joseph	KFEQ, Incorporated	46.9	.....	.....
St. Louis	Columbia B/C System, Inc.	45.9	13,400	1,871,398
St. Louis	Globe-Democrat Pub. Co.	46.3	13,083	1,858,665
St. Louis	Missouri Broadcasting Co.	46.7	13,200	1,799,870
St. Louis	Thomas Patrick, Inc.	47.7	17,480	.....
	The Pulitzer Pub. Co.	45.5	13,391	1,531,182
St. Louis				(50 uv/m)
St. Louis	St. Louis University	45.1	13,000	1,682,500
St. Louis	Star-Times Pub. Co.	44.7	12,480	1,748,733
				(50 uv/m)
NEBRASKA				
Lincoln	Cornbelt B/C Corp.	47.3	18,300	549,668
Omaha	Inland B/C Company	44.5	9,950	93,846
Omaha	World Publishing Company	45.5	11,660	1,062,000

P E N D I N G F M A P P L I C A T I O N S

State and City	Applicant	Fre- quency (megs.)	Cover- age (sq. mi.)	Population
NEVADA				
Las Vegas	Nevada B/C Company	49.5	560	28,172 (plus 10,000 military pers.)
Reno	Reno Newspaper, Inc.	43.7	35,558.7	309,181
NEW HAMPSHIRE				
Manchester	The Radio Voice of N. H.	43.5	31,630	2,318,333
NEW JERSEY				
Jersey City	Fidelity Media B/C Corp.	49.1	5,160	4,199,500
Jersey City	New Jersey B/C Corp.	49.1	6,200	11,194,000
Newark	The Evening News Pub. Co.	43.5	19,861	14,192,769
Newark	IUUAAA Workers of America	43.1	18,750	.....
New Brunswick	Home News Pub. Co.	49.9	3,420	1,215,936
Passaic	The Passaic Daily News	49.9	3,878	5,915,787
Paterson	North Jersey B/C Co.	45.9	4,928	.....
Trenton	Mercer B/C Company	49.9	3,200	910,000
NEW YORK				
Albany	WOKO, Incorporated	45.1	7,164	922,163 (50 uv/m)
Binghamton	Wylie B. Jones Adv. Agency	43.7	6,500	.....
Buffalo	WBEN, Incorporated	43.3	21,830	2,405,500
Buffalo	WEBR, Incorporated	46.5	3,420	.....
Brooklyn	Frequency B/C Corp.	43.7	8,500	11,900,000 (50 uv/m)
Corning	The Evening Leader	49.7	5,213	319,884
Hastings-on-Hudson				
Hudson	Bernard Fein	48.7	8,500	12,147,260
Hornell	The W. H. Greenhow Co.	49.3	5,062	237,353
Ithaca	Cornell University	43.3	15,000	.....
Jamesstown	James B/C Co., Inc.	46.1	10,352	664,907
New York	The American Network, Inc.	47.9	8,840	12,500,000
New York	Blue Network, Inc.	47.0	8,950	12,320,500
New York	Debs Memorial Radio Fund, Inc.	48.7	8,600	12,300,000
New York	Hearst Radio, Inc.	48.7	8,570	11,388,577
New York	News Syndicate Co., Inc.	47.9	8,500	11,212,416
New York (Chicago)	Oak Park Realty and Amusement Co.	47.9	10,800	5,030,510
New York	WBNX B/C Co., Inc.	48.3	8,730	11,328,743 (50 uv/m)
New York	WMCA, Incorporated	48.3	8,550	.....
Ogdensburg	St. Lawrence B/C Corp.	.....	7,854	.....
Oswego	Palladium-Times, Inc.	48.9	2,392	183,271
Poughkeepsie	Poughkeepsie Newspapers, Inc.	44.3	10,198.5	2,128,196
Syracuse	Central New York B/C Corp.	46.3	6,800	562,000
Syracuse	Onondaga Radio B/C Corp.	45.9	6,745	555,366
Syracuse	WAGE, Inc.	45.4	7,780	623,213
Utica	WIBX, Incorporated	45.7	10,290	528,069
Watertown	The Brockway Company	47.3	4,145	138,591
White Plains	Westchester B/C Corp.	49.9	435	.....
NORTH CAROLINA				
Durham	Durham Radio Corporation	.....	.....	.....
Greensboro	Greensboro B/C, Inc.	44.5	11,130	73,055
Greensboro	North Carolina B/C Co., Inc.	43.9	13,200	.....
Greensboro	Greensboro News Co.	45.5	5,820	452,000
High Point	Radio Station WMFR	45.1	5,030	38,493
Raleigh	WPTF Radio Company	43.3	23,343	1,406,723
Roanoke Rapids	Telecast, Inc.	49.1	5,198	319,192
Rocky Mount	Josh L. Horne	.....	7,250	25,568 (Rocky Mount only)

<i>State and City</i>	<i>Applicant</i>	<i>Fre- quency (megs.)</i>	<i>Cover- age (sq. mi.)</i>	<i>Population</i>
Salisbury	Piedmont B/C Corp.....	49.3	6,950	579,000
Winston-Salem ...	Piedmont Publishing Co.	46.7	4,600	500,684
				(50 uv/m)
NORTH DAKOTA				
Fargo	KVOX B/C Company.....	44.5	5,800	124,567
OHIO				
Akron	Summit Radio Corporation.....	46.5	922	.....
Akron	Nied and Stevens.....	49.1	262	140,344
Ashland	Beer & Koehl.....	48.9	8,494	.....
Ashtabula	WICA, Incorporated.....	48.9	4,116	307,254
Canton	The Ohio Broadcasting Co.....	46.1	8,499	951,070
Cincinnati	Cincinnati B/C Co.....	43.7	19,100	2,095,765
Cincinnati	Cincinnati Times-Star Co.....	46.7	13,700	1,496,500
Cincinnati	The Crosley Corp.....	45.5	13,700	.....
Cincinnati	L. B. Wilson, Inc.....	45.9	13,700	.....
Cincinnati	Scripps Howard Radio, Inc.....	47.9	13,700	455,610
Cleveland	National B/C Co., Inc.....	43.7	.....	.....
Cleveland	United B/C Company.....	48.5	8,420	2,212,953
Cleveland	IUUAAA Workers of America.....	43.1	17,500	.....
Cleveland	WGAR B/C Company.....	45.5	8,500	.....
Columbus	Central Ohio B/C Co.....	43.1	21,010	1,629,564
Columbus	The Crosley Corp.....	46.5	12,400	.....
Columbus	The Pixleys.....	48.5	12,500	1,022,711
Columbus	United B/C Company.....	48.1	12,400	.....
Dayton	The Crosley Corp.....	46.1	8,000	.....
Newark	The Advocate Printing Co.....	45.7	.....	.....
Steubenville	Liberty B/C Company.....	.....	.....	.....
(Pittsburgh)				
Steubenville	The Valley B/C Company.....	.....	.....	.....
Toledo	The Toledo Blade Company.....	45.5	8,400	.....
Toledo	Fort Industry Co.....	43.5	19,350	246,750
Wooster	Wooster Republican Printing Co.....	49.3	7,780	577,873
Youngstown	WFMJ B/C Company.....	44.1	15,610	2,987,176
Youngstown	WKBN B/C Corp.....	43.3	15,690	3,041,839
OKLAHOMA				
Lawton	Plaza Court B/C Co.....	.....	15,394	.....
Oklahoma City ...	Ned Shepler.....	48.9	4,500	.....
Oklahoma City ...	WKY Radiophone Company.....	44.5	21,000	.....
Tulsa	Fred Jones B/C Co.....	45.3	22,000	787,532
Tulsa	World Pub. Co. and Tulsa Tribune Co...	45.7	23,850	967,812
OREGON				
Medford	Mrs. W. J. Virgin.....	49.5	3,121	29,539
Portland	Broadcasters Oregon, Ltd.....	48.5	5,826	634,044
Portland	Oregonian Publishing Co.....	46.1	13,328	739,556
Portland	KOIN, Inc.	45.7	12,856	734,214
PENNSYLVANIA				
Bethlehem	Associated B'casters, Inc.....	48.5	2,800	.....
Harrisburg	Harrisburg B/C Co.....	43.5	11,548	502,989
Harrisburg	Keystone B/C Corp.....	44.7	4,000	.....
Harrisburg	The Patriot Company.....	46.1	7,633	1,045,857
Johnstown	WJAC, Inc.....	45.1	21,792	2,868,509
Lancaster	WGAL, Incorporated.....	46.5	1,200	.....
Philadelphia	Gibraltar Service Corp.....	46.1	9,318	3,998,402
Philadelphia	The Philadelphia Inquirer.....	48.1	15,500	4,697,141
Philadelphia	WDAS B/C Station, Inc.....	47.7	9,300	3,992,850
Pittsburgh	Pittsburgh Radio Supply House.....	46.5	8,400	2,095,718
Pittsburgh	WCAE, Incorporated.....	45.4	8,650	2,429,000
Reading	Hawley B/C Company.....	46.5	4,275	889,600
Scranton	Scranton B'casters, Inc.....	48.1	19,557	2,697,425
Sharon	Sharon Herald B/C Co.....	45.9	11,030	1,763,157
Uniontown	Fayette B/C Corp.....	48.1	10,240	1,628,338
Wilkes-Barre	Louis G. Baltimore.....	.....	.....	.....

• • • **PENDING FM APPLICATIONS** • • •

<i>State and City</i>	<i>Applicant</i>	<i>Fre- quency (megs.)</i>	<i>Cover- age (sq. mi.)</i>	<i>Population</i>
Williamsport	WRACK, Incorporated	47.7	11,675	1,183,934
York	Susquehanna B/C Co.	44.5	3,060	441,700
York	York Broadcasting Co.	45.1	1,550	.....
RHODE ISLAND				
Pawtucket	Pawtucket Broadcasting Co.	45.1	3,760	1,543,488
Providence	Cherry & Webb B/C Co.	47.5	6,207	4,230,838 (50 uv/m)
Providence	The Outlet Company	48.5	7,520	6,263,346 (50 uv/m)
Providence	Providence Journal Co.	46.6	6,767	1,272,147
Providence	A. A. Schechter	45.1	3,950	.....
SOUTH CAROLINA				
Charleston	Atlantic Coast B/C Company	47.7	6,400	.....
Columbia	Surety Life Ins. Co.	43.1	16,230	537,232
Greenville	Greenville News-Piedmont Co.	44.1	23,687	1,612,477
Greenwood	Greenco, Incorporated	44.7	5,305	246,397
Spartanburg	Spartanburg Adv. Co.	43.5	26,600	.....
TENNESSEE				
Chattanooga	WDOD B/C Corp.	47.5	23,800	1,289,993
Jackson	The Sun Publishing Co.	47.1	13,400	657,509
Knoxville	American Broadcasting Corp.	45.1	3,230	306,423
Memphis	Memphis Publishing Co.	48.1	19,640	.....
Nashville	Nashville Radio Corp.	46.5	16,000	.....
TEXAS				
Abilene	Reporter Broadcasting Co.	45.7	6,936	.....
Amarillo	Amarillo B/C Corp.	45.1	5,600	80,024
Austin	Frontier B/C, Inc.	47.1	12,900	.....
Beaumont	KRIC, Incorporated	43.1	6,650	.....
Dallas	A. H. Belo Corporation	43.7	22,700	.....
Dallas	KRLD Radio Corp.	45.7	20,000	.....
Galveston	KLUF B/C Co., Inc.	44.5	940	94,628
Harlingen	Harbineto B/C Co., Inc.	.....	2,400	.....
Houston	Houston Printing Corp.	46.5	10,500	722,600
Houston	KTRH Broadcasting Company	47.7	14,300	856,882
San Angelo	KGKL, Incorporated	45.3	6,936	.....
San Antonio	The Walmac Company	45.3	10,506	536,104
San Antonio	Southland Industries, Inc.	44.5	16,500	.....
Texarkana	KCMC, Incorporated	48.1	7,088	.....
Waco	Frontier B/C, Inc.	46.1	13,700	.....
Wichita Falls	Rhea Howard	46.5	12,800	.....
UTAH				
Salt Lake City	Intermountain B/C Corp.	46.7	800	239,079
VIRGINIA				
Newport News	Hampton Roads B/C Company	44.7	5,950	549,939
Norfolk	WTAR Radio Corporation	46.5	5,702	560,312
Portsmouth	Portsmouth Radio Corp.	43.7	6,000	538,659
Roanoke	Times-World Corporation	45.3	30,340	1,806,731
Richmond	Havens & Martin, Inc.	46.1	12,130	658,236
Richmond	Richmond Radio Corporation	46.3	11,269	685,440
WASHINGTON				
Seattle	Radio Sales Corporation	44.3	8,200	.....
Spokane	Louis Wasmer, Inc.	45.7	12,609	249,887
WEST VIRGINIA				
Charleston	Charleston Broadcasting Co.	43.5	11,525	.....
Morgantown	West Virginia Radio Corp.	43.5	33,244	4,000,000 (approx.)

• • • **PENDING FM APPLICATIONS** • • •

<i>State and City</i>	<i>Applicant</i>	<i>Fre- quency (megs.)</i>	<i>Cover- age (sq. mi.)</i>	<i>Population</i>
WISCONSIN				
Green Bay	Green Bay Newspaper Co.			
Madison	Badger Broadcasting Co.	43.3	31,640	2,272,719
Milwaukee	Hearst Radio, Inc. (NY)	43.5	17,791	2,107,277
Milwaukee	The Journal Company	43.9	17,828	1,930,745
Milwaukee	Milwaukee B/C Co.	48.9	1,279	843,685
Milwaukee	Wisconsin Radio, Inc.	46.1	7,750	1,450,749
Oshkosh	Oshkosh B/C Company	44.5	3,810	285,436
Racine	Racine Broadcasting Co.	49.1	2,540	446,611
Sheboygan	Press Pub. Co.	48.5	2,360	280,890
Wausau	Record Herald Company	46.5		

DEVELOPMENTAL STATIONS

<i>Licensee and Location</i>	<i>Frequency</i>	<i>Power</i>
The Atlanta Journal Co., Atlanta, Georgia		to be assigned 700w (cp only)
Courier Journal & Louisville Times T-NE of Eastwood, Ky.	45,500	1kw
Everett L. Dillard tr/as Commercial Radio Equipment Co., Washington, D. C.		to be assigned 250w (cp only)
Everett L. Dillard tr/as Commercial Radio Equipment Co., Washington, D. C.—Portable		to be assigned 100w (cp only)
Temple Ehmsen, Portland, Oregon		to be assigned 1kw (cp only)
The Journal Co., Milwaukee, Wisconsin	45,500	100w
KLZ Broadcasting Co., Denver, Colorado	43,500	1kw (cp only)
Maryland Broadcasting Co., Baltimore, Maryland		to be assigned 1kw (cp only)
Matheson Radio Co., Boston, Massachusetts		to be assigned 1kw (cp only)
Muzak Corporation, New York	117,650	1kw (cp only)
National B/C Co., Inc., Portable		25 watts
National B/C Co., Inc., Portable or Portable-Mobile		100 watts
Voice of Alabama, Birmingham, Alabama		to be assigned 1kw (cp only)
Voice of Alabama, Birmingham, Alabama		to be assigned 250w (cp only)

DEVELOPMENTAL APPLICATIONS PENDING

Evansville On The Air, Inc., Glenwood, Indiana	43,300	1kw
Cowles Broadcasting Co., Des Moines, Iowa	49,100	1kw
Cowles Broadcasting Co., Washington, D. C.	49,100	1kw
Cowles Broadcasting Co., Minneapolis, Minnesota	49,100	1kw
Cowles Broadcasting Co., Jersey City, New Jersey	49,100	1kw
Massachusetts B/C Corp., Boston, Massachusetts	49,100	1kw
WAO Broadcasting Service, Chattanooga, Tennessee	43,700	1kw

EXPERIMENTAL STATIONS

Crosley Corporation, Cincinnati, Ohio	43,200	1kw
C. M. Jansky Jr. and Stuart L. Bailey, d/b as Jansky and Bailey, Georgetown, D. C.	43,200	1kw